The Winged Fruits of the Carboniferous Genus Cardiocarpus.

The genus *Cardiocarpus* was probably related to the modern Conifers of the *Welwitschia* type, as shown by the similarity of the fruit and also by the close relation of the leaves, if those called *Cordaites* belong, as both Geinitz and Newberry have independently remarked, to *Cardiocarpus*. The *Welwitschia* is an embryonic form of Conifer, it producing no leaves except the cotyledonous; but, while probably unlike *Cordaites* in its embryonic features, it shows what leaves and fruit are consistent with the type of Conifers.—*Dana's Manual of Geology*, New Edition, pp. 328, 330.

Remarks on the Fishes of the Algerian Sahara. By M. P. Gervais.

In the communications which have recently been made to the Academy on the subject of the possibility of establishing a sea in the Algerian Sahara, there have been urged, successively for or against that project, facts derived from geology, botany, and even zoology. In fact M. Cosson, calling in the aid of this last branch of natural history, has cited the *Coptodon Zillii*, described by me, as proving the continuity of the sheet of water under this region*.

This *Coptodon*, which M. Valenciennes has proposed to unite with *Glyphisodon*, a genus of marine fishes, although it differs therefrom in several characters, and especially in the non-ctenoid character of its scales, has received several other denominations. It is the *Perca Guyonii* of Heckel; and Dr. Günther has made it the type of a new genus under the name of *Haligenes Tristrami*; but it had been previously indicated under the name of *Bolti* from examples collected in other parts of Africa, principally in the Nile; and it is also the *Tilapia* of Andrew Smith, who had the opportunity of observing it in South Africa. It is known also in the Senegal and Mozambique, and everywhere lives in fresh water. We cannot say, therefore, like Dr. Tristram, that in Algeria it may be regarded as a last living vestige of the fauna which peopled the Saharian sea during the Tertiary epoch "before the elevation of the ground in Northern Africa poured into the Mediterranean the waters of that vanished ocean."

In my memoir on the fishes of Algeria † I brought forward the objection which the essentially fluviatile character of the Bolti enables us to oppose to this opinion, and indicated that this was also the case with the *Cyprinodon*, which is likewise ejected by the artesian waters of the Sahara under the same conditions; and I added that I did not think we ought any longer to accept the expression that has been sometimes employed with regard to this genus of fishes (namely, that they are derived from a sea stretching beneath the region in question), seeing that, wherever we know the Cyprinodons, they are, like the Bolti, exclusively proper to fluviatile or lacustrine waters, and, like it, are strangers to the sea. This is what we ascertain, whether we observe these fishes in Algeria or capture them in Portugal, Spain, Syria, Egypt, and even in America. Moreover the fossil Cyprinodonts which Agassiz names *Lebias* are like-

* See 'Comptes Rendus,' tome lxxix. p. 934.
† Zool. et Pal. gén. p. 200.